

## Solution of Unsolved Questions of Standard Costing

### Q6:- DATA FOR MATERIAL VARIANCE

	Standard			Standard ratio for actual mix	Actual		
	Q	R	Amount		Q	R	Amount
X	80.88	20	1617.77	80	90	18	1620
Y	121.33	30	3640.00	120	110	34	3740
	202.21		5257.77	200	200		5360
	182 kg				182 kg		

### STATEMENT OF VARIANCE

	Particular	Basis	Amount
1	MCV	SC-AC 5257.77 - 5360	102.23A
2	MPV	(SP - AP) AQ X: (20-18) 90; 180F Y: (30-34)110: 440A	260A
3	MUV	(SQ-AQ) SR X: (80.88 - 90) 20: 182.22A Y: (121.33 - 110) 30: 340F	157.77 F
4	MMV	(RSQ -AQ)SR X: (80-90)20: 200A Y: (120-110)30: 300F	100F
5	MYV	(SQ - RSQ)SR X: (80.88 - 80)20:17.77F Y: (121.33 - 120)30:40F	57.77F

### Q8:- DATA FOR MATERIAL VARIANCES

Quantity (kg)	Standard			Std. ratio for actual mix	Actual		
	Q	R	Amount		Q	R	Amount
A	4650	1	4650	4920	5000	2	10000
B	3100	2	6200	3280	2900	4	11600
C	3875	3	11625	4100	4400	5	22000
	11625		22475	-12,300	12,300		43600
	620000 tiles				620000 tiles		

### STATEMENT OF VARIANCE

	PARTICULAR	BASIS	AMOUNT
1	MCV (SC -AC)	22475 - 43600	21125A
2	MPV(SP -AP)AQ	A: (1-2)5000: 5000A B: ( 2 - 4) 2900 : 5800A	196900A

		C: (3-5)4400:8800A	
3	MUV (SQ –AQ)SR	A: (4650 – 5000)1 : 350A B: (3100-2900)2:400F C: (3875 – 4400)3: 1575A	1525A
4	MMV(RSQ-AQ)SR	A: (4020 – 5000) 1: 350A B: (3280 – 2900 )2:760F C: (4100 – 4400)3: 900A	220A
5	MYV (SQ-RSQ)SR	A: (4650 – 4920)1:270A B: (3100 – 3280)2: 360A C: (38758 – 4100)3 675a	1305A

### Q13:- DATA FOR LABOUR VARIANCES

	BUDGET			STANDARD			ACTUAL		
	Q (LABOUR HOUR)	R	AMOUNT	Q	R	AMOUNT	Q	R	AMOUNT
X	90x 1000 90000	2	1,80,000	92250	2	184500	72000	2.5	18000
Y	60x1000 60000		1,80,000	61500	3	184500	63000	2	126000
	150000		360000	153750		369000	13500 0		306000
	4000 FG						4100FG		

### STATEMENT OF VARIANCES

	Particular	Basis	Amount
1	Labour cost variance	SC-AC 369000 - 306000	63000F
2	Labour Rate variance	(SR-AR)A H.W. X: ( 2 -2.50)75000 : 36000A Y” (3 – 2) 63000 :63000F	27000A
3	Labour efficiency variance	(SH-AH) SR X: (92250 – 72000)2: 40500F Y: (61500-63000)3: 4500A	36000F

### Q15:- DATA FOR LABOUR VARIANCES

	1000 FG			960FG			960 FG				
	BUDGET			STANDARD			ACTUAL				
	Q	R	Amount	Q	R	Amount	Q	R	Amount	Idle hrs	Actual working hrs
Men	400	1	400	384	1	384	520	3	1560	12X2.26	494
Women	200	2	400	192	2	384	160	4	640	4X 2 – 8	152
boys	200	3	600	192	3	576	120	5	600	3X 2 - 6	114
	800			768			800		2800	40	

### STATEMENT OF VARAINCE

S.No.	Particular	Basis	Amount
1	Labour Rate variance	SC –AC 1344 – 2800	1456A
2	Labour Rate variance	(SR-AR)APH	1600A

		Men (1-3)520:1040A Women (2-4)160: 320A Boys : ( 3-5) 120: 240 A	
3	Labour efficiency variance	(SH –AWH)SR Men: (384 – 4947)1: 110A Women: (192 – 152) 2: 80F Boy: (192 – 114) 3 : 234 F	204F
4:-	Labour idle Variance	Idle hours X SA Men 26X1 : 26A Women: 8 X 2: 16A Boys : 6X3: 18A	60A

### Q17:- DATA FOR LABOUR VARIANCES

	Q (Lab Hours)	R	Amount	Q	R	Amount
Deppt A	8000	0.30	2400	8200	0.2439	2000
Deppt B	6000	0.35	2100	5800	0.31034	1800
			4500			3800

### STATEMENT OF VARIANCES

S.no.	Particular	Basis	Amount
1	Labour cost variance	SC-AC DepptA: 2400 – 2000 = 400F Deppt B: 2100 – 1800 = 300 F	700F
2	Labour Rate Variance	(SR –AR)AHW DepptA: ( 0.30 – 2439) 8200 : 460F Deppt B: (0.35 – 0.31034) 5800: 230F	690F
3	Labour efficiency variance	(SH –AH)SR DepptA: (8000 – 8200)0.30:60A Deppt B: ( 6000 – 5800 )0.35: 70F	10F

### Q18:- Data for variable overhead variances

Budget			Standard			Actual		
Q	R	Amount	Q	R	Amount	Q	R	Amount
Labour Hour								
8000	1.25	10,000	7200	1.25	9,000	7000	1.3071	9150

### Statement for variance

S.No.	Particulars	Basis	Amount
1	V.O. Cost Variance	SC-AC 9000 – 9150	150A
2	V.O. Efficiency variance	(SH-AH)SR =(7200 – 7000)1.25	250F
3	VO Expenditure Variance	(SR-AR)AHW (1.25 – 1.3071)7000	400A

### Q22:- Statement of Variances

1:- Overhead Budget Variance = Budget –Actual  
= 25000 – 26500  
= 1500A

2:- Overhead volume variance= Applied – Budget

$$= 22500 - 25000$$

$$= 2500 \text{ A}$$

### DATA FOR Fixed overhead variance

<b>Budgeted Hrs</b>	<b>RR/hours</b>	<b>Budgeted FO</b>
5000	5	25000
Which assumption ??		
Budgeted hours = actual hrs	??	Actual FO 26,500
Actual hrs = std hrs		Applied FO 22500
Std Hrs 22500/5 = 4500		

### **Q23:- Data for variable overhead variances**

Budget			Standard			Actual		
Q	R	Amount	Q	R	Amount	Q	R	Amount
Labour Hour								
60,000	1	60,000	65000 $\frac{60000 \times 32500}{30,000}$	1	65000	60000	1.133	68000

### DATA FOR Fixed overhead variance

<b>Budgeted Hrs</b>	<b>RR/hours</b>	<b>Budgeted FO</b>
60,000	0.75	Rs. 45000
<b>Actual HRs</b>		<b>Actual FO</b>
60,000		Rs. 50,000
<b>Standard Hrs</b>		<b>Recovered</b>
3250 X 2 = 65000		65000 X 0.75 = 48,750

### **Statement of Variances**

- 1:- V.o. Cost variance = SC-AC= 65000 – 68000 : 3000A
- 2: V.O. variance(SR-ARAWH –(1-1.133)60000: 8000A
- 3: V.O. efficiency variance (Sh-AWH)Sr = 65000 – 60000 1: 5000F
- 4: F.O. cost variance Recovered-Actual  
48750 = 50,000 = 1250A
- 5: F.O. Expenditure variance = Budget – Actual  
45000 – 50000 = 5000A
- 6:- F.O. Volume variance = Recovered – Budget  
48750 – 45000 = 3750 F
- 7:F.O. Efficiency variance = (SH –AWH)RR /hour  
= (65000 – 60000 )0.75 = 3750F
- 8:- F.O. Capacity variance = (AWH –BH)RR/hr  
= (60,000 – 60000 ) 0.75 = nil
- 9:- F.O. Calendar Variance=(Actual working days – Budgeted Working day) std. rate day  
= (26-25) 45000 = 1800 F  
25
- 10: F.O. Revised capacity variance = Total capacity variance – calendar variance = nil -1800 = 1800 A



Budgeted Hrs	RR/hours	Budgeted FO
5000 X 5 = 25000 (WN-5)	100% of D.W. Cost 6X 5 = 30	150000 (WN – 5)
	RR/hr 30/5 = 6	
Actual HRs		Actual
25040hr (WN- 7)		158000
Standard Hrs		Recovered
25500hrs (WN-6)		153000

### W.N.3:- MPV at time of purchase

= (SR – ARAQ purchased

8000 = ( 2 – 1.95) AQ purchased

AQ purchased = 160000 lts(Req 2)

### W.N.4:- MUV = (SQ – AQ)SR

- 5000 = (SQ-AQ)2

SQ – AQ = - 2500

ie excess used above std. = 2500 lts(Req 3)

### W.N.5:- FO Expenditure Variance = Budget – Actual

- 8000 = Budget – 158000

Budgeted FO = Rs. 1,50,000

Budgeted output X RR/unit = Budgeted F.O.

Budgeted output X 30 = 1,50,000

Budgeted output = 5,000 units (Req1)

### W.N.6:- LCV = LCV + LRV

= 2760 – 5760

= 3000 A

LCV = SC – AC

-3000 = SC – 156000

SC = 153000

SH X SR = 153000

SH X 6 = 153000, SH = 25500 hrs.

Budgeted hrs for 1 fg X Actual output = std. hrs

5 X Actual output = 25500

Actual output = 5100 units (req 4)

### W.N.7:- LEV = (SH – AH)SR

2760 = (25500 – AH)6

460 = 2550 – AH

AH = 25040 hrs (REQ 5)

### W.N.8:- AR X AH = Actual wages cost

AR X 25040 = 156000

AR = as 6.23/- (Req6)

### Q45:- Statement of information Required

Particular	Basis	Amount
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1	Budgeted sales Qty of A	WN-1	400 units
2	Actual sales qty of B	WN-2	800 units
3	SPV for A	WN-3	1500F
4	SPV for B	WN-4	4000F
5	S Volume variance for B	WN-5	6000F
6	Sales volume variance for A	WN-6	2700F
7	Sales value variance for B	WN-7	10,000F

**W.N.1:-** Sales volume variance A =  $(BQ_A - AQ_A)BSP_A$   
 $-1200 = (BQ_A - 500)12$   
 $-100 = BQ_A - 500$   
 $BQ_A = 400 \text{ units (req)1}$

**W.N.2:-** Sales price variance A =  $(BSP - ASP)AQ$   
 $= (12 - 15) 500$   
 $= 1500 F$

**W.N.3:-** Let total AQ be x

Sales Mix variance =  $(RSQ - AQ)B.S.P.$

$-450 = (0.5X - 500)12$   
 $(0.5x - (x - 500) 15$   
 $= (0.5x - 500)12 + (0.5x - x + 500)15$   
 $-450 = 6x - 6000 + 7.5x - 15x + 7500$   
 $1950 = 1.5x$

$X = 1300 \text{ units}$

$AQB = 1300 - 500 = 800 \text{ units (req2)}$

**W.N.4:-**  $SPVB = (BSP_B - ASP_B)AQ_B$

$= (15 - 20) 800$   
 $= 4000 F \text{ (Req 4)}$

**W.N.5:-** Sales volume Variance B =  $(BQ_B - AQ_B) BSP$

$= (400 - 800) 15$   
 $= 6000 F \text{ (Req5)}$

**W.N.6:-** Sales value variance =  $BQ_A \times BSP - AQ_A \times ASP_A$

$400 \times 12 - 500 \times 15 = 2700F \text{ ( Req 6)}$

**W.N.7:-** Sales value variance b =  $BQ_B \times BSP_B - AQ_B \times ASP_B$

$= 400 \times 15 - 800 \times 20$   
 $= 10000F \text{ (Req7)}$

**Q46:- DATA FOR SALES VARIANCE (TURNOVER BASED)**

Budgeted Sales			Std. Ratio for actual mix	Actual sales		
Q	SP	Amount		Q	SP	Amount
5000	100	500000	5200	5750	120	690000
4000	200	800000	4160	4850	180	873000
6000	180	1080000	6240	5000	165	825000
15000		2380000	15600	15600		2388000

**STATEMENT OF VARIANCE**

	Particulars	Basis	Amount
1	Sales Value variance	Budgeted- Actual	8000 F

		Sales Sales 2380000 - 2388000	
2	Sales Price variance	(BSP –ASP)AQ sold Brave⊗100 – 120) 5750: 1,15,000 F Champion: (200 -180)4850: 97000A Super : (180 – 165)500 : 75000A	57000A
3	Sales Quantity Variance	(BQ –RSQ)BSP Bravo: (5000 – 5200)100 : 20,000 F Champion : ( 4000 – 4160 ) 200: 32000F Super: (6000 – 6240) 180: 43200F	95200F
4	Sales Mix Variance	(RSQ –AQ)BSP Bravo⊗5200 – 5750)100: 55000F Champion : (4160 – 4850) 200: 138000 F Super: (6240 – 5000) 180 : 223200A	30,200A

### DATA FOR SALES VARIANCE (MARGIN BASED)

	BUDGETED PROFIT			STD. RATIO FOR ACTUAL MIX	ACTUAL PROFIT		
	Q	BSP/BC	AMOUNT		Q	ASP/-BC	AMOUNT
BRAVO	5000	10	50,000	5200	5750	30	172500
CHAMPION	4000	30	1,20,000	4160	4850	10	48500
SUPER	6000	50	3,00,000	6240	5000	35	175000
	<b>15,000</b>		<b>4,70,000</b>	<b>15600</b>	<b>15600</b>		<b>396000</b>

### Statement Of Variance

S.No.	Particular	Basis	Amount
1	<b>Sales Margin value variance</b>	Budgeted profit –Actual profit 470000 - 396000	74,000A
2	<b>Sales Margin Price variance</b>	(BSP – ASP)AQ sold Bravo: (100-120)5750: 115000F Champion : ( 200 -180)4850: 97000A Super : (180-165) 5000: 75000A 57,000A	57,000A
3	<b>Sales Margin mix variance</b>	(RSQ –AQ)(BSP –BC) Bravo ( 5200 – 5750) 10: 5500F Champion: (4160 – 4850) 30: 20700F Super: ( 6240 – 50000) 50: 62000A	35800A
4	<b>Sales Margin Qty Variance</b>	(BQ-RSQ) (ASP- BC) Bravo: (5000-5200)10: 2000F Champion : (4000-4160)30:4800F Super : (6000-6240) 50: 12000F	18,800F

### Q47:- Data for Material variances

	Standard			Std. Ratio for actual fix	Actual		
	Q	R	Amount		Q	R	Amount
A	22000						
B	20000						
C	9000						
	<b>51000</b>	<b>2</b>	<b>10,2000</b>	<b>51,408</b>	<b>54000</b>	<b>2.03</b>	<b>1096620</b>
Y							
A	33000						
B	5000						
C	36000						

	<u>74000</u>	1	<u>74000</u>	74592	<u>72000</u>	1.014	<u>73000</u>
	<u>125000</u>		<u>176000</u>			<u>126000</u>	<u>182620</u>

### DATA FOR SALES VARIANCE (MARGIN BASED)

	Budgeted profit			Std. Ratio for Actual mix	Actual profit		
	Q	BSP-BC	Amount	Actual mix	Q	ASP-BC	Amount
A	10000	5	50,000	10416.66	11000	4.50	49500
B	6000	6	36,000	6250	5000	6.10	30500
C	8000	3	24,000	8333.33	9000	2.55	22950
	24000			25000	25,000		102950

### STATEMENT OF VARIANCES

1	MCV	SC-AC 176000 - 182620	6620A
2	MPV	(SP-AP)AQ X: ( 2 – 2.03) 54000 : 1620A Y: ( 1 – 1.014) 72000 : 1000A	2620A
3	MMV	(RSQ –AQ)SP X: (51408 – 54000) 2 : 5184A Y: (74592 – 72000)1: 2592F	2592A
4	MYV	(BQ –RSQ)SP X: (51000 – 51408) 2 : 816A Y: (74000 – 74592)1: 592A	1408A
5	Sales Margin value variance	Budgeted –Actual profit 110000 – 102950	7050A
6	Sales Margin Price variance	(BSp –ASP)AQ Sold A: ( 12 – 11.50) 11000 : 5500A B: ( 15-15.10) 5000 : 550F C: ( 9 -8055) 9000 : 4050A	9050A
7	Sales Margin Qty Variance	(BQ –RSQ) (BSP-BC) A: (10000- 10416.66) 5: 2083F B: (6000 – 6250) 6 : 1500F C: ( 8000 – 8333.33) 3 : 1000F	4583F
8	Sales Margin Mix variance	(RSQ –AQ) (BSP –BC) A: (10416.66 – 11000 ) 5:2917F B: (6250 – 5000 ) 6 : 7500A C: (8333.33 – 9000)3: 2000F	2583A

### Q51:- Data for variable overhead variance

	Standard			Actual		
	Q	R	Amount	Q	R	Amount
<u>Indirect Material (KG)</u>	<u>400</u>	<u>10</u>	<u>4000</u>	<u>410</u>	<u>12</u>	<u>4920</u>
<u>Indirect labour &amp; Expenditure</u>	<u>800</u>	<u>20</u>	<u>16000</u>	<u>850</u>	<u>30</u>	<u>25500</u>
			<u>20,000</u>			<u>30,420</u>

### Statement of Variance

	Variable overhead efficiency variance	Variable overhead Expenditure variance
Indirect material usage variance	(SQ-AQ)SP (400-410)10 = 100 A	Indirect material (SP-AP) AQ Price variance(10-12)=410 =820A
Indirect Labour efficiency variance	(SH-AWH)SR(800 – 850) 20 =1000 A	Indirect Labour( SR-AR) Rate Variance= (20 – 30) 850 = 8500 A

	Variable Overhead Efficiency 1100 A variance	Variable Overhead expenditure = 9320 A variance
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Variable overhead cost variance  
= 20,000 – 30,420  
= 10,420 A

**Standard cost of production of Shirts per dozen & in total (for lot No:- 45,46,47)**

<u>Lot No</u>	<u>Cost Dozen</u>	<u>Dozens</u>	<u>Total Standard cost</u>
<b>Lot 45 (UK)</b>			
DM	264		
DL	147		
O/H	120		
	<b>531</b>	<b>1700</b>	<b>902700</b>
<b>LOT N 46 (US)</b>			
DM	264		
DL	17 X 80% = 1176		
O/H	120 X 80% = 96		
	<b>477.6</b>	<b>1200</b>	<b>5,73,120</b>
<b>(LOT No. 47 (CAN))</b>			
DM	264		
DL	147		
O/H	120		
	<b>531</b>	<b>1000</b>	<b>5,31,000</b>

**B:- STATEMENT SHOWING VARIATION IN QUANTITY OF MATERIAL USED**

<u>Lot No.</u>	<u>Std. Qty/ dozen (mtrs)</u>	<u>Output(dozen)</u>	<u>Std. qty for AO(mts)</u>	<u>Actual qty(mts)</u>	<u>Variation in material (mts)</u>
Lot(uk)	24	1700	40800	40440	360 F
(US) 46	24	1200	28800	28825	25 A
(can )47	24	1000	24000	24100	100 A
<b>Total</b>			<b>93,600</b>	<b>93365</b>	<b>235 A</b>

**STATEMENT SHOWING VARIATION IN LABOUR HOURS WORKED**

<u>Lot No.</u>	<u>Std. Hrs/dozen hrs</u>	<u>Output (dozen)</u>	<u>Standard Hours For AO</u>	<u>Actual Hours</u>	<u>Variation (Hrs)</u>
45 ( UK)	3	1700	5100	5130	30A
46 (US)	3	1200X 80% = 960	2880	2890	10A
47 (CAN)	3	1000	3000	2980	20F
			<b>10,980</b>	<b>11,000</b>	<b>20A</b>

**C:- STATEMENT OF VARIANCE**

1	Mpv(at time of purchase)	SP-AP AQ per ( 11 – 1064000/ 95000) 95000	19000A
2	LRV	(SR-AR)AWH (49 – 50 ) 11000	11000 A
3	VO Efficiency Variance	(SH –AWH)SR ( 10980 – 11000 ) 24 *	480 A
4	FO volume variance	(SH –BH) RR/hour (10980 – 18000 ) 16*	16320 A
*	Total Budgeted o/h(annually)		57,60,000
	Total Budgeted hours (annually)		1,44,000
	(48,000 X 3)		
	Recovery rate /hour		Rs. 40
	Std. Rate for Variable overhead = 40 X 60 % = Rs. 24/hr.		

Std. Rate for Fixed overhead = $40 \times 40\% = \text{Rs. } 16/\text{hr.}$
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\*Total budgeted hours annually for FO = 1,44,000

Budgeted Hours for July =  $1,44,000 / 2 = 12,000 \text{ hrs.}$

**Q56 :- STANDARD COST CARD** Rs. (per unit)

Direct Material Cost (10 pieces /unit @ Rs. 2/- Piece)	20
Direct labour cost (2.5 hours /unit @ Rs. 4 hours)	10
Standard cost per unit	35

**JOURNAL ENTRIES**

1:- Material Control A/c	Dr.	$10,000 \times 2 = 20,000$	
Material price variance A/C	Dr.	$10,000 \times 0.2 = 2,000$	
To suppliers A/c			22,000
2:- Supplier A/c	Dr.	22,000	
To bank A/c			22,000
3:-WIP A/c	Dr.	$9,000 \times 2 = 18,000$	
Material usage variance A/c	Dr.	$500 \times 2 = 1000$	
To material control A/c			$9500 \times 2 = 19,000$
4:- Labour control A/c	Dr.	$2475 \times 2 = 4950$	
Labour rate variance A/C	Dr.	$2475 \times 05 = 1237.50$	
To Labour wages payable			$2475 \times 2.50 = 6187.50$
5:- Wages Payable A/C	Dr.	6187.50	
To Bank			6187.50
6:- WIP A/c	Dr.	$(900 \times 2.5) \times 2 = 4500$	
Labour efficiency variance A/c	Dr.	$225 \times 2 = 450$	
To Labour control A/c			4950
7:- WIP A/c	Dr.	$(900 \times 2.5) \times 4 = 9000$	
Overhead cost variance	Dr.	2000	
To bank			11,000
8:-Overhead volume variance	Dr.	1000	
Overhead expenditure variance	Dr.	1000	
To overhead cost variance			2000
9:- Costing P & L A/c	Dr.	6687.50	
To Material price variance A/c			2000
To Material usage variance A/c			1000
To Labour Rate variance A/c			1237.50
To Labour efficiency variance A/c			450
To Overhead volume variance			1000
To Overhead Expenditure variance			1000

**Q 58:- DATA FOR RESOURCE VARIANCE**

	Standard	Std. Ratio	Actual
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				for actual mix			
	Q	R	Amount		Q	R	Amount
Material A (Kg)	6000	4	24000	7200	7000	5	35000
Material B (Kg)	4000	2	8000	4800	5000	3	15000
	10000		32000	12000	12000		50000
Labour (Hrs)	8000	5	40000		8500	6	51000
					500 (idle)	6	3,000
					9000	6	54,000
VO (HRS)	8000	6	48000		8500	7	69,500

### DATA FOR Fixed overhead variance

Budgeted Hrs	RR/hours	Budgeted FO
3,000 X 4 = 12000	7.5	90,000
Actual Hours		Actual Fo
8500		1,00,000
Standard Hours		Recovered
4 X 2,000 = 8,000		8,000 X 7.5 = 6000

### STATEMENT OF VARIANCE

1	MCV	SC-AC: 32000 - 50000	18000A
2	MPV	(SP - AP) AQ A: (4 - 5) 7000 : 7000 A B: (2 - 3) 5000 : 5000 A	12000 A
3	MUV	(DQ - AQ) SP A: (6000 - 7000) 4 : 4000 A B: (4000 - 5000) 2 : 2000 A	6000 A
4	MMV	(RSQ - AQ)SR A: (7200 - 7000) 4 : 800 F B: (4800 - 5000) 2 : 400 A	400 F
5	MYV	(SQ - RSQ)SR A: (6000 - 7200) 4 : 4800 A B: (4000 - 4800) 2 : 1600 A	6400 A
6	LCV	SC - AC : 40,000 - 54,000	14000 A
7	LRV	(SR-AR)APH : (5-6) 9000	9000 A
8	LEV	SH - AWH)SR (8000 - 8500) 5	2500 A
9	IDLE Variance	Idle hours X SR 500 X 5	2500 A
10	V.O. cost variance	SC - AC 48000 - 59500	11500 A
11	V.O. Exp. Variance	(SR - AR)AWH (6 - 7) 8500	8500 A
12	V.O. Eff. Variance	(SH - AWH) SR (8000 - 8500) 6	3000A
13	F.O Cost Variance	Recovered - Actual 60,000 - 1,00,000	40,000 A
14	F.O. Exp Variance	Budget - Actual 90,000 - 1,00,000	10,000 A
15	F.O. Volume Variance	Recovered - Budget 60,000 - 90,000	30,000 A
16	FO Efficiency variance	(SH - AWH)RR/hour (8,000 - 8500) 7.5	3750 A
17	F.O. Capacity variance	(AWH - BH)RR/hour	26250 A

		(8500 – 12,000) 7.5	
	Capacity Ratio =	$\frac{\text{Actual working hours}}{\text{budgeted hours}} \times 100$ = $\frac{8500}{12000} \times 100 = 70.83\%$	
	Efficiency Ratio =	$\frac{\text{Std. Hours}}{\text{Actual Hrs}} \times 100$ = $\frac{8,000}{8500} \times 100 = 94.12\%$	
	Activity Ratio =	$\frac{\text{Std. Hours}}{\text{Budgeted Hours}} \times 100$ = $\frac{8000}{12000} \times 100 = 66.66\%$	

### RECONCILIATION STATEMENT (ABSORPTION)

Budgeted profit ( 3000 units ( 100-90)						
	<table border="1" style="display: inline-table;"> <tr> <td style="text-align: center;">90000</td> <td style="text-align: center;">3,00,000</td> </tr> <tr> <td style="text-align: center;">30</td> <td style="text-align: center;">3,000</td> </tr> </table>	90000	3,00,000	30	3,000	30,000
90000	3,00,000					
30	3,000					
Sales Variance						
Sales Margin Price variance (BSp –ASP) AQ Sold (100-150) 2000 <u>3,00,000</u> 2000		1,00,000 F				
Sales Margin volume variance (BQ –AQ) (BSP –BC) : (3000 – 2000 )		10,000 A				

### Cost Variance

MPV	12000 A
MUV	6000A
LRV	9000 A
LEV	2500A
IDLE Variance	2500 A
V.O. Expenditure Variance	8500 A
V.O. Efficiency variance	3000 A
F.O. Exp. Variance	10,000 A
F.O. Volume variance	30,000 A
Actual profit (3,00,000 – 2,63,500)	36,500

**Q 60:- W.N. 1 :-**  $MCV = MPV = MUV = SC - AC$

- $4250 + 1050 = 3 \times 14,400 \times 1.5$  AC
- $3200 = 64800 - AC$
- AC for Material = 68,000

**W.N.- 2:-**  $LCV = LRV + LEV = SC - AC$

- $4000 + 3200 = 3 \times 14,400 \times 1 - AC$
  - $800 = 43,200 - AC$
- AC FOR LABOUR = RS. 44,000

**W.N.-3:-**  $V.O. COST VARIANCE = SC - AC$

- $400 = (0.25 \times 14,400) - AC$
- AC = 3200

**W.N.-4:-**  $F.O. COST VARIANCE - Recovered - Actual$

$$400 - 1680 = 0.30 \times 14400 - AC$$

$$- 1280 = 4320 - AC$$

$$- ACTUAL FO = 5600$$

**W.N.-5:-** ADMN O/H COST VARIANCE = (SC) – AC  
 - 400 – 1680 = 0.30 x 14400 – AC  
 AD O/H = 6400

**W.N.-6:-** SALES MARGIN PRICE VARIANCE = ( BSP – ASP ) AQ  
 = ( 10 – 10 ) 14,400 = NIL

**W.N.-7:-** SALES MARGIN QTY VARIANCE (BQ – AQ)  
 (BSP – B)  
 = (20,000 – 14,400) ( 10 – 8.85)  
 = 6440 A

### **PROFIT & LOSS STATEMENT**

	RS.
Sales ( 14400 X 10)	144000
( - ) Material	68000
( - ) Labour	44000
( - ) Direct Exp. ( 0.50 X 14,400)	7200
( - ) V.O.	3200
Contribution	<b>21600</b>
( - ) Fixed o/h	5600
(-) Admin o/h	6400
Profit	<b>9600</b>

### **ABSORPTION**

#### **Reconciliation statement**

	Rs.
Budgeted profit ( 20,000 X 1.15)	23,000
Sales Varaince	
Sales Margin volume variance	6440A
Sales Margin price Variance	Nil

### **COST VARIANCE**

MPV	4250A
MUV	1050F
LRV	4000 A
LEV	3200 F
V.O. VARIANCE	400 F
F.O. EXP.VARIANCE	400 F
F.O. VOLUMNE VARIANCE	1680
ADMIN O/H EXP. VARIANCE	400A
ADMIN O/H VOL VAR	1680A
ACTUAL PROFIT	9600

### **Q62:- STATEMENT OF PERFORMANCE**

Last years profit	7,00,000
Sales Variance	
Sales Margin price variance	484000F
Sales margin volume variance	70000F
Cost Variance	
MPV	348000A

MUV	300000A
V.O. EXP. VARAINCE	400000A
V.O. EFFICIENCY VARIANCE	50000F
LABPUR O/H VOLUMNE VARIANCE	150000A
LABOUR O/H VOLUME VARIANVE	1000000F
FIXED O/H EXP VARIANCE	50000A
FIXED O/H VOLUMNE VARIANCE	80000F
CURRENT YEARS'S PROFIT	596000

## Statement of variance

1:- Sales Margin price variance =  $\frac{9284000 \times 5.5}{105.5} = 484000 \text{ f}$

2:- Sales Margin volume variance =  $\left( 80,00,000 - \frac{9284000}{105.5\%} \right) = 780$   
= 70,000 f

3:- MPV  $\left[ \frac{6148000}{106} \times 100 = 5,80,0000 \right] 6\% = 348000A$

4:- MUV ( 50,00,000 X 1.1 – 58,00,000 ) 3,00,000 A

5:- V.O. exp. Variable  $\left( \frac{540000}{108} \times 100 = 5,00,000 \right) 8\%$  40,000 A

6:- V.O. Efficiency variance ( 5,00,000 X 1.1 – 5,00,000 ) 50,000 F

7:- Labour experience variable ( 1000000 – 1150000 ) 150000A

8:- Labour volume variance ( 10,00,000 X 1.1 – 1000000 ) 100000 F

9 F.O. Exp variance ( 8,00,000 – 8,50,000 ) 50,000 A

10:- F.O. Volume variance ( 8,00,000 X 1.1 – 8,00,000 ) 80,000 F

## Q66:- DATA FOR RESOURCE VARAINCE

Standard			Std. ratio for actual output	Actual			
Q	R	Amount		Q	R	Amount	
A	12000	10	120000	11435	11000	11	121000
B	5000	6	30000	4765	5200	5.5	28600
	17000		1,50,000	16,200	16,200		1,49,600
Labour	5000	3	15000		5500	3.18	17,500

### DATA FOR FIXED OVERHEAD VARIANCES

Budgeted hours	RR/hour	Budgeted FO
5500	7	1100 X 35 = 38500
Actual hours 5500		Actual F.O. 39,000
Standard Hours 1000 X 5 = 5000		Recovered 5000 X 7 = 35,000

### STATEMENT OF VARIANCE

Particulars	Basis	Amount
1: MPV(PURCHASE)	(SR-AR)AQ PURCHASED A : (10-11)12000 = 12000 A B@6 – 5.5) 5000 = 2500 F	9500A
2 : MUV	(SQ-AQ)SR	8800F

	A: (12000 – 11000)10 = 10,000 F B: (5000 – 5200 ) 6 = 12000A	
<u>3 : MPV</u>	(SR-AR)AQ Consumed A: ( 10 -11) 11000 : 11000A B: ( 6 -55) 5200 : 2600 F	8400 A
<u>4: MCV</u>	SC –AC 150000 – 149600	400 F
<u>5: LCV</u>	SC-AC 15000 - 17500	2500A
<u>6: LEV</u>	(SH –AH)SR (5000 – 5500 )3	1500A
<u>7: LRV</u>	(SR –AR)AH (3 – 3.78) 5500	1000A
<u>8:- MMV</u>	(RSQ –AQ) SR A: ( 11435 – 11000) 10 : 4352.94F B: (4765 – 5200)6 : 2611.76A	1741.18F
<u>9:-MYV</u>	(SQ-RSQ)SR A: (12000 – 11435) 10: 5647.06F B: ( 5000 – 4765) 6: 1411.76F	7058.82F
<u>10.F.O. COST. VARIANCE</u>	RECOVERED –ACTUA; 35000 – 39000	4000A
<u>11: F.O.EXP VARIANCE</u>	BUDGET – ACTUAL 38500 – 39000	500A
<u>12:- F.O. VOLUME VARIANCE</u>	RECOVERED –BUDGET 35000- 38500	3500A
<u>13:- F.O. CAPACITY VARIANCE</u>	(AH – BH) RR/HOUR (5500 – 5500)7	NIL
<u>14:- F.O. EFFICIENCY VARIANCE</u>	(SH-AH)RR/HOUR (5000 – 5500)7	3500A

### Q67:- DATA FOR RESOURCE VARIANCE

STANDARD			STD. RATIO FOR ACTUAL MIX	ACTUAL		
Q	R	AMOUNT		Q	R	AMOUNT
P 20400	4	81600	20533.3	20500	4.2	86520
Q61200	7	428400	61600	61600	71	437360
R <u>40800</u> <u>122400</u>	5	102000	<u>41066.6</u> 123200	30000 <u>110000</u> 123200	2.40 2.50	99500
LAB 20400 (HRS)	20	408000		19900	20.301	404000
V.O. 20400 (HRS)	5	102000		19900	5.025	100000

### DATA FOR FIXED OVERHEAD VARIANCE

Budgeted hours	RR/hour	Budgeted FO
20,000	7.5	15000
Actual hours		Actual F.O.
19900		1,56,000
Standard Hours		Recovered
5100 X 4 = 20400		1,53,000

### STATEMENT OF VARIANCE

Particulars	Basis	Amount
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<b>1: MPV(PURCHASE)</b>	(SR-AR)AQ PURCHASED P: (4-4.2)22000 : 44000A	8400A
<b>2 : MMV</b>	(RSQ-AQ)SR P: (20533.3 – 20600) 4: 267A Q: (61600 – 61600) 7: NIL R: (41066.6 – 41000) 2.5 : 167F	100A
<b>3 : LRV</b>	(SR-AR)AH (20-20.301) 19900	6000 A
<b>4: LEV</b>	(SH-AH)SR: (20400-19900)20	10000 F
<b>5: V.O. EFF. VARIANCE</b>	(SH – AH)SR (20400-19900)5	2500F
<b>6: F.O.EFF. VARIANCE</b>	(sh –ah)rr/hrs: (20400-19900)7.5	3750F
<b>7: Sales price variance</b>	(BSP –ASP)AQ SOLD (350 – 340) 4500 : 45000 A (350 – 350 ) 1600 : NIL	45000A
<b>8:- SALES VOLUMNE VARIANCE</b>	(BQ-AQ) (BSP –BCP.U.) (6000 -6100) (350-250)	10000 F
<b>9: SALES VALUE VAIANCE</b>	BQ x BPpu –AQX(SP-BC) 6000 x 100 – 4500 (340 – 250) - 1600 ( 350 – 150)	35000a

### Q71:- DATA FOR RESOURCE VARIANCE

	Original standard			Revised standard			Actual standard		
	Q	R	Amount	Q	R	Amount	Q	R	Amount
Material	11400	20	228000	12825	16.50	211612.5	12450	18	22400
Labour	17100	7	119700	17100	6.5	111150	18800	8	150400
			347700			32762.5			374500

	<u>Traditional variance</u> <u>Original- Actual</u> <u>standard</u>	<u>Planning variance</u> <u>Original std. –</u> <u>Revised std.</u>	<u>Operating variance</u> <u>Revised std. - Actual</u>
<b>MPV</b>	(20 – 18) 12450 = 24900F	(20-16.50) 12825 =44887.5F	(16.50 – 18)12 18675A
<b>MUV</b>	(11400 – 12450) 20 = 21000 A	(11400 – 12825)20 = 28500	(12825 – 12450) =6187.5F
<b>LRV</b>	(7-8) 18800 =18800A	(7-6.5)17100 =8550F	(6.5-8)18800 =28200A
<b>LEV</b>	(17100-18800)7 = 11900A	(17100 – 17100)7 = Nil	6.5(17100-18800) = 11050A
<b>MCV</b>	228000 – 224100 = 3900F	228000 – 211612.5 16387.5F	211612.5-m 224100 = 12487.5A
<b>LCV</b>	<u>119700 – 150400</u> <u>30700A</u>	<u>119700 – 111150</u> <u>= 8550F</u>	<u>111150-150400</u> <u>=39250A</u>

### RECONCILATION STATEMENT (TRADITIONAL VARIANCES)

	<u>Rs.</u>
Budgeted contribution(2500X78)	195000
Sales Variance	
Sales Margin price Variance (200 – 200) 2850	Nil
Sales Margin Volume variance (2500 – 2870)78	27300F

### Cost variance

MPV	24900F
MUV	21000A

LRV  
LEV

18800A  
11900A

**Actual contribution:-** 2850X 200 – 224100 – 150400

**195500**

**RECONCILIATION STATEMENT (PLANNING & operational variance)**

<u>Rs.</u>	
Budgeted contribution	195000
Planning variances ( uncontrollable)	
Sales variance	Nil
Cost variance MPV	44877.5f
MUV	2850.0A
LRV	8550F
LEV	Nil
	219937.5

Operating variances ( Controllable)

Sales variance

Sales Margin price variance	Nil
Sales margin volume variance	27300F
Cost variance :	
MPV	18875A
MUV	6187.5F
LRV	28200A
LEV	11050A
Actual Contribution	195500

**Q74:- Statement of change in profit**

	2002	2003
Revenue	200 X 40,000 =80,00,000	210 X 42000 88,20,000
Less cost		
Direct material	3,00,000 X 8 2400000	310000 X8.5 2635000
Conversion cost	20,00,000	20,25,000
Selling & Customer service cost	1,00,00,00	940500
Design Cost	12,00,000	12,12,000
Profit	14,00,000	2007500

Change in profit \$ 6,07,500 F

**Statement of Balance Score card**

Growth	Price	Productivity
<b>Revenue effect of growth</b>	<b>Revenue effect of price</b>	
(BQ –AQ) BSP	(BSP –ASP)AQ sold	
= ( 200 -210) 40000	= ( 40000 – 42000) 210	
= \$ 4,00,000 F	= \$ 420, 000 F	
<b>Cost effect of growth</b>		
= (BQ –AQ)BVC p.u.		
= (200-210) 3000000 X 8 ----- 200	Cost effect of price (SP –AP) AQ =(8 – 8.50) 310000 = \$ 15,50,00 A	Usage effect (sq –Aq)Sp (315000 – 31000) = \$ 40,000 F

= \$ 1,20,000A	Conversion cost variance = Budget – Actual = 20,00,000 – 20,25,000 = \$ 25000A	
	Selling cost variance = Budget –Actual = 10,00,000 – 940500 = \$ 59500 F	
	Design Cost variance = Budget – Actual = 12,00,000 – 1212000 = \$ 12000A	
<b>A - \$280000F</b>	<b>B:= \$ 287500F</b>	<b>\$ 40,000F</b>

### Q75:- Statement of Change in Profit

	2002	2003
Revenue	60X50,000 30,00,000	70X48000 =33,60,000
Les: Cost		
Software implementation Cost (variance cost)	60X 30,000 1,80,000	63X32,000 =2016000
Software implementation support cost	3,60,000	369000
Software development cost	375000	390000
profit	<b>465000</b>	<b>585000</b>
Change in Profit	1,20,000 F	

### STATEMENT OF BALANCE SCORE CARD

GROWTH	PRICE	PRODUCTIVITY
<b>Revenue effect of growth</b>	<b>Revenue effect of Price</b>	
(BQ-AQ)BSP	(BSP-Asp)AQ Sold	
= (60 – 70) 50,000 = \$ 5,00,000F	=(50,000 – 48,000) 70 = \$ 1,40,000A	
Cost effect of Growth	Cost effect of Price	Usage effect
(BQ-AQ)BVCp.u.	(SP –AP)AH	(SH –AH)SR
(BQ –AQ) BVCp.u.	= ( 60-63)32000	(35000 – 32000)6
= (60-70) $\frac{30000}{60}$ X 60 =\$ 3,00,000 A	= \$ 96000A	= 80000F
	Support cost variance = Budget – Actual = 3,60,000 – 3,69,000 =\$9,000 A	
	Development cost variance = Budget – Actual = 375000 – 390000 = \$ 15000A	
A:- \$ 2,00,000 F	B: \$ 2,60,000A	C:- 1,80,000F

### DATA FOR RESOURCE VARIANCE

40,000			42,000			42,000		
Budget			Standard			Actual		
Q	R	Amount	Q	R	Amount	Q	R	Amount
120000	10	1200000	126000	10	1260000	123000	11	1353000

$$\text{B.VC per unit} = \frac{120,0000}{40,000} = 30/-$$

Rate of cons per unit of Finished goods – Cost

$$10/\text{sq feet} \times 3 \text{ Square feet} = 30$$

## Q76:-

Budgeted sales (in units) of 2002	40,000
+ Increase in Market size (3%)	1200
Budgeted units to be sold after increase in market size	<b>41200</b>
+ Increase in market share (b/f)	800
Actual units sold	<b>42000</b>

Change in operating income due to market size change = ( 1200 X(100-30))= 84000 F

Change in Operating income due to increase in market share = 800 X ( 100 – 30)  
= 56,000 F

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**By:- SANJAY AGGARWAL**

**FCA, FICWA.**

**Chartered Accountant.**